CLAIMS

1. A variant type 1 interferon beta (IFN-β) protein exhibiting modified immunogenicity as compared to a wild type IFN-β, said variant comprising at least one modification at a position selected from the group consisting of 1,2, 3, 4, 5, 6, 8, 9, 12, 15, 16, 22, 28, 30, 32, 36, 42, 43, 46, 47, 48, 49, 51, 92, 93, 96, 100, 101, 104, 111, 113, 116, 117, 120, 121, 124,130, 148, and 155, wherein said modifications to residues 5, 8, 15, 47, 111, 116, and 120 are substitution mutations selected from the group consisting of alanine, arginine, aspartic acid, asparagine, glutamic acid, glutamine, glycine, histidine, and lysine, and said modifications to residues 22, 28, 30, 32, 36, 92, 130, 148, and 155 are selected from the group including alanine, arginine, aspartic acid, asparagine, glutamic acid, glutamine, glycine, histidine, serine, threonine and lysine.

2. A variant IFN-β according to claim 1 wherein said modified immunogenicity is reduced immunogenicity.

3. A variant IFN-β according to claim 2 wherein said reduced immunogenicity is increased solubility..

4. A variant IFN-β according to claim 1 wherein said protein demonstrates reduced binding to at least one human class II MHC allele.

5. A variant IFN-β according to claim 1 wherein said modified immunogenicity is increased immunogenicity.

6. A variant type 1 interferon alpha (IFN-α) protein exhibiting modified immunogenicity as compared to a wild type IFN-α comprising at least one modification at a position selected from the group consisting of16, 27, 30, 89, 100, 110, 111, 117, 128, and 161, wherein said modifications are substitution mutations selected from the group consisting of alanine, arginine, aspartic acid, asparagine, glutamic acid, glutamine, glycine, histidine, serine, threonine, and lysine.

7. A variant IFN-α according to claim 6 wherein said modified immunogenicity is reduced immunogenicity.

8. A variant IFN-α according to claim 7 wherein said reduced immunogenicity is increased solubility..

9. A variant IFN-α according to claim 7 wherein said protein demonstrates reduced binding to at least one human class II MHC allele.

10. A variant IFN-α according to claim 6 wherein said modified immunogenicity is increased immunogenicity.

11. A variant type 1 interferon kappa (IFN-κ) protein exhibiting modified immunogenicity as compared to a wild type IFN-κ comprising at least one modification at a position selected from the group consisting of 1, 5, 8, 15, 18, 28, 30, 33, 37, 46, 48, 52, 65, 68, 76, 79, 89, 97, 112, 115, 120, 127, 133, 151, 161, 168, and 171, wherein said modifications are substitution mutations selected from the group consisting of alanine, arginine, aspartic acid, asparagine, glutamic acid, glutamine, glycine, histidine, serine, threonine, and lysine.

12. A variant IFN-κ according to claim 11 wherein said modified immunogenicity is reduced immunogenicity.

13. A variant IFN-κ according to claim 12 wherein said reduced immunogenicity is increased solubility..

14. A variant IFN-κ according to claim 12 wherein said protein demonstrates reduced binding to at least one human class II MHC allele.

15. A variant IFN-κ according to claim 11 wherein said modified immunogenicity is increased immunogenicity.

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